

Exhibit 12

Expert Report of Paul Oyer
(October 27, 2017)
(excerpted)

**IN THE UNITED STATES DISTRICT COURT FOR THE
DISTRICT OF NEVADA**

Cung Le, et al. v. Zuffa, LLC

EXPERT REPORT OF PAUL OYER

October 27, 2017

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studies, the empirical results provide no evidence that consolidation of the MMA market by UFC has lowered the compensation of MMA fighters.

14. Professor Zimbalist's expert report also focuses on a measure of employee compensation that is not recognized as an appropriate metric of whether earnings are in line with the market. He also compares MMA compensation to other sports that are fundamentally different, in terms of how athletes should be compensated, than MMA while ignoring other sports that might be more appropriate for comparison.

V. Dr. Singer's Use of Labor Share is Inconsistent with Economic Principles and Empirical Studies in Labor Economics

A. Labor Share is Not an Economically Accepted Way to Evaluate Worker Compensation

15. Labor economists do not use labor share as a way to evaluate worker compensation or to benchmark competition in competitive labor markets. Labor economists start from the basic principle that, in a competitive labor market, a firm will be willing to pay a worker up to the “marginal product” of that worker’s labor. That is, the firm is willing to pay the worker the additional value that the employee creates.

16. Consider a common and simple example – a salesperson. A company will often pay a salesperson a share of his or her sales (a sales commission). The more the employee sells (that is, the higher his or her marginal product), the more the employee earns. The commission and the salesperson’s salary will adjust for the costs of the product sold, the fixed costs (such as benefits and administrative costs), and other costs of employing the salesperson. The salesperson’s pay is related to *his or her productivity* – his or her marginal product. It is not related to or based on the *firm’s* overall revenues.

17. It is not as easy to see or estimate the marginal product of labor for most employees as it is for salespeople, but the same basic principle applies. Firms offer salaries and other compensation and they adjust them over time as the employee gains skills, proves more or less valuable than expected, and as other employers make offers. The determination of a worker’s pay is driven by his or her output, not by his or her output relative to the size of the firm. Consequently, the level of the individual’s pay, rather than pay as a share of firm revenues, is the relevant benchmark and is a natural proxy of the worker’s marginal product of labor.

18. If the labor market is not competitive, as is alleged in this case, then earnings will not reflect a worker’s marginal product of labor. That is, in a “monopsonistic” labor market where a firm has market power over its workers, the firm will pay its workers less than their marginal product of labor. However, the proper benchmark remains the marginal product of labor in a “but for” world where the firm has no monopsonistic power. As a result, economists will analyze the *level* of pay across workers with and without monopsony power and attribute differences in the level of pay to the difference in the ability of a monopsonistic and a competitive firm to withhold some of a worker’s marginal product.

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19. The empirical analysis of pay done by labor economists has, for a long time, taken a certain form based on the level of earnings. Specifically, when labor economists study the determination of compensation in labor markets, in specific industries, and within individual firms, they typically run a “Mincer Regression.”³ In these wage regressions, the dependent variable is the natural logarithm (“log”) of a worker’s compensation over some specific period of time such as a year, a week, or an hour. In rare cases, (similar to the context Dr. Singer studies) the dependent variable in a Mincer Regression will be log pay in a single event. A common variant of the basic Mincer Regression is to use the change in the natural log of compensation.

20. In my experience, virtually any research-related analysis of compensation done by qualified labor economists is focused around Mincer Regressions or some slight variant on them. A typical issue of a labor economics journal will have several papers that use Mincer Regressions as the core of the analysis.

21. Mincer regressions are the core tool of analysis of labor markets generally. But, of more relevance in this case, they are also the primary tool used in academic studies of “monopsony” and, more generally, of employers’ exertion of market power to lower employee compensation.

22. The economic literature on this is robust. Alan Manning, a labor economist at the London School of Economics, has written extensively on monopsony. In addition to his own research, he has written two detailed reviews of the literature on monopsony and employer labor market power. His 2003 book, *Monopsony in Motion*, reviews the underlying economics of monopsony and employer power and the academic literature in this area. In this book, Manning has numerous tables showing empirical results of research in this area conducted by himself or by other labor economics scholars. At least seven tables in this book present empirical analysis trying to determine if there is monopsony power in some labor market using log of wages (hourly, weekly, etc. and sometimes the change in log of wages from one period to another) as the dependent variable. However, there are *no* regressions or tables in the book that use labor share of revenue or labor share of any employer output measure as any part of the empirical analysis. In fact, there is no use of the term “labor share” (or any related term) in the entire book.

23. Manning also wrote a chapter in the *Handbook of Labor Economics* in 2011. This volume is a primary source for surveys of labor economic topics written by a panel of labor economists who are considered leaders in the field and experts on a particular topic. Manning reviewed a large number of relevant empirical studies. Those that study how monopsony power affects wages all use Mincer regressions where the dependent variable is the log of earnings or the change in the log of earnings.

24. Several of the studies that Manning reviews in his handbook chapter relate to nurses. Nursing is a profession that has long been suspected of having powerful

³ The name is based on the seminal work in this literature – Jacob Mincer 1974, *Schooling, Experience and Earnings*, Columbia University Press: New York.

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employers that can use this power to control wages, as Dr. Singer noted in his deposition. The academic studies of this profession all use the log of wages as the primary dependent variable when measuring the degree of monopsony. They look at the level of wages in areas where they suspect nurse employers have monopsony power. They compare these nurses' wages to benchmark workers that are either nurses in areas where employers do not have monopsony power or workers in industries and occupations where the labor market is considered more competitive. In both benchmark cases, pay is likely to be reflective of the worker's marginal product but there is no reason to think that these benchmark workers' pay as a share of their firm's revenues provides a meaningful comparison nor that it is a reasonable proxy for the workers' marginal products.

25. For example, economists Barry Hirsh and Edward Schumacher published two studies of monopsony power in nursing. In the first, they did "standard log wage equation"⁴ regressions where the dependent variable is log of hourly wage. They then look for monopsony power by comparing log wages of nurses to log wages of other workers by area. In the later paper, they do more analyses, all of which focus on log of wage and how it relates to concentration of the nurse market.⁵

26. Manning also cites an influential study by Suresh Naidu that looks at laws in the post-bellum South that discouraged white employers from hiring black workers.⁶ Naidu measures the effects of these laws using regressions where the dependent variable is the log of the average wage for the relevant workers by state by year (the finest level of detail available). Manning also mentions a study by Morris Kleiner and Won Park that looks at the pay of dental hygienists and how it relates to rules regarding dentists' ability to control them. They use the log of the hourly earnings of employees as the dependent variable in their analysis.⁷

27. In an earlier review of monopsony, William Boal and Michael Ransom discuss numerous papers. They highlight one study of teachers, noting "Beck's (1993) dissertation is the most comprehensive of the studies of monopsony in the school-teacher market. He analyzes pooled data from all 541 school districts in Missouri for several years between 1982 and 1990. He defines the market for each district to include all

⁴ Barry T. Hirsch and Edward J. Schumacher, 1995, "Monopsony Power and Relative Wages in the Labor Market for Nurses," *Journal of Health Economics*, 14, at 455.

⁵ Barry T. Hirsch and Edward J. Schumacher, 2005, "Classic or New Monopsony? Searching for Evidence in Nursing Labor Markets," *Journal of Health Economics*, 24, 969-989.

⁶ Suresh Naidu, 2010, "Recruitment Restrictions and Labor Markets: Evidence from the Post-Bellum US South", *Journal of Labor Economics*, 28, 413-445.

⁷ Morris Kleiner and Kyoung Won Park, 2010, Battles Among Licensed Occupations: Analyzing Government Regulations on Labor Market Outcomes for Dentists and Hygienists, NBER Working Paper #16,560.

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districts located within a 25 mile radius. As a dependent variable, he uses the logarithm of the average teacher's salary in a district...”⁸

B. Dr. Singer's Statements About the Use of Labor Share in Labor Economics Are Wrong

28. There is no literature of which I am aware in the academic community that accepts use of labor share as a proper basis for measuring how monopsony power affects compensation. In fact, there is virtually no literature that uses labor share when studying the effect of *any* variable that might affect a worker's marginal product or pay.

29. When asked at deposition if he could cite specific academic or peer-reviewed studies that analyze wage share in general and for purposes of estimating damages in antitrust cases, Dr. Singer responded, “I think that the concept of -- of labor's share of his or her marginal revenue product is the foundation of labor economics. It's going to be something that is widely researched and studied in the abstract and in particular industries.”⁹ He later elaborated, “the wage share of marginal revenue product is the way that you understand competition in competitive labor markets and how you understand the opposite.”¹⁰

30. In fact, the labor share as Dr. Singer measures it is not the foundation of labor economics, it is not widely researched by labor economists, and it has not been widely studied in particular industries by labor economists. When benchmarking competition in competitive labor markets, labor economists do *not* study the share of revenues that accrue to labor. Labor share is not generally accepted in the field of labor economics as a method for determining compensation in a competitive labor market and the validity and reliability of such a method for evaluating an anticompetitive effect has not been tested within the field.

31. Dr. Singer's confusion here could be due to the fact that there is a large literature among macroeconomists that studies labor's share of the economy. Typically, this involves looking at wages as a fraction of Gross Domestic Product, some other macroeconomic measure of the size or the health of the economy, or a measure of the size of an entire sector of the economy. These studies do not equate labor's share to the market power employers hold over labor.

32. For example, macroeconomists Loukas Karabarbounis and Brent Neiman recently published a widely read and cited study in which they analyze long-term global trends in the labor share of the economy as a whole and of very broadly defined industries (such as mining and construction).¹¹ They never mention issues related to

⁸ William M. Boal and Michael R. Ransom, 1997, “Monopsony in the Labor Market,” *Journal of Economic Literature*, 35, at 103-104.

⁹ Deposition of Hal J. Singer (“Singer Tr.”) at 112:10-16.

¹⁰ *Id.* at 114:14-18.

¹¹ Loukas Karabarbounis and Brent Neiman, 2014, “The Global Decline of the Labor Share,” *The Quarterly Journal of Economics*, 129, 61–103.